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EXAMINER

SHEEHAN, JOHN P

ART UNIT

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1793

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DELIVERY MODE

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

DETAILED ACTION

Status of the Claims

1. The prior art rejections of claims 13 and 15 to 24 based on each of MogylInvy et al. and Schlagel et al. have been overcome by the amendment to the claims and applicants' arguments. Claims 13 to 24 have been canceled and new claims 25 to 43, all the pending claims, are rejected as set forth below.

Claim Rejections - 35 USC § 112, First Paragraph

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 25 to 43 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

I. In claim 25, lines 5 and 6, "melting a first and a second of the three elements" reads on melting the following combinations of elements, Ni and Mn; Ni and Ga; and Mn and Ga. However the application as filed does not provide support for the embodiment of melting the combination of Mn and

Ga. Thus, the embodiment of melting Mn and Ga together is considered to be drawn to new matter.

II. In claim 29, the last two lines, "a pressure in the range of 20-200 mbar below atmospheric" does not find support in the application as filed and therefore is new matter.

Claim Rejections - 35 USC § 112, 2nd Paragraph

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 25 to 43 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

I. In claim 25, line 12, "the obtained nickel-manganese-gallium alloy" lacks a clear antecedent. For example, is "the obtained nickel-manganese-gallium alloy" the nickel-manganese-gallium alloy recited in line 10 or is it the nickel-manganese-gallium alloy resulting from the homogenizing step recited in line 11?

II. In like manner, in claim 25, line 13, "the nickel-manganese-gallium alloy" lacks a clear antecedent. For example, is the antecedent for this phrase the "nickel-manganese-gallium alloy" recited in line 10 or is it the nickel-manganese-gallium alloy resulting from the homogenizing step

recited in line 11 or is it the nickel-manganese-gallium alloy resulting from the casting step recited in line 12?

III. Claim 25, lines 12 to 14, claim 40, lines 10 to 12 and claim 42, lines 9 to 11, recite "casting the obtained nickel-manganese-gallium alloy and subjecting the nickel-manganese-gallium alloy to directional solidification" These passages in the claims appear to recite that the cast alloy is then subsequently directionally solidified. Directional solidification is a process that is applied to a molten alloy, however, a cast alloy is a solid. In view of this, it is not understood how directional solidification is applied to the previously cast alloy, solid alloy.

Response to Arguments

6. Applicant's arguments filed July 14, 2008 have been fully considered but they are not persuasive.

7. Regarding the rejection of claims 25, 40 and 42 on the grounds that it is not understood how directional solidification is applied to the previously cast alloy (see paragraph 2 (III) above), applicants argue that, "casting does not necessarily imply that the cast alloy is solid". The Examiner is not persuaded. Applicants have not defined the term, casting in the specification to have a meaning other than its generally accepted meaning. According to "A Dictionary of Metallurgy", casting is defined as "the operation of pouring molten metal into sand, metal or other moulds and allowing it to solidify" (see, A Dictionary of Metallurgy, page 30 attached to this action, emphasis added by the

Examiner). Thus, the term casting is defined to mean that the molten alloy is cast into a solid. In view of the lack of any definition in the specification defining "casting" in terms other than its dictionary definition, the term "casting" as used in the in the specification must be interpreted in terms of its dictionary definition. Accordingly, the term casting as used in the specification and the claims means that the molten alloy is cast into a solid. In view of this explanation and the fact that directional solidification is a process that is applied to a molten alloy, the Examiner maintains the position that it is not understood how directional solidification is applied to the previously cast alloy as recited in the claims.

Conclusion

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to John P. Sheehan whose telephone number is (571) 272-1249. The examiner can normally be reached on T-F (7:30-5:00) Second Monday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King can be reached on (571) 272-1244. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/John P. Sheehan/
Primary Examiner, Art Unit 1793

JPS